



Code No: 824AF

R15**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA IV Semester Examinations, June/July - 2018****DISTRIBUTED SYSTEMS****Time: 3hrs****Max.Marks:75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**5 × 5 Marks = 25**

- 1.a) Describe the limitations of distributed systems. [5]
- b) Explain RMI. [5]
- c) Define cast communication. [5]
- d) Mention the locking rules for nested transaction. [5]
- e) With an example discuss about digital signature. [5]

PART - B**5 × 10 Marks = 50**

- 2.a) Discuss design issues of Distributed Systems. [5+5]
 - b) Discuss Network Technologies and Protocols in Distributed Systems. [5+5]
- OR**
3. Explain Interprocess communication in detail. [10]
- 4.a) Distinguish between processes and Threads. [5+5]
 - b) Explain various distributed file system components in detail. [5+5]
- OR**
- 5.a) Discuss about X.500 Directory structure. [5+5]
 - b) Explain the concept of Process creation and communication. [5+5]
6. Explain following Synchronizing physical clocks.
 - a) Cristian's method for synchronizing clocks. [5+5]
 - b) The Berkeley algorithm. [5+5]
- OR**
- 7.a) Explain Atomic commit protocol. [5+5]
 - b) Explain Network Time Protocol. [5+5]
- 8.a) Explain distributed deadlocks. [5+5]
 - b) Explain Hierarchical and group masking of faults. [5+5]
- OR**
- 9.a) Distinguish cache consistency from replica consistency. [5+5]
 - b) Characterize a distributed system. Explain the term – Transparency. [5+5]

- 10.a) Discuss digital signatures with public keys and with secret keys.
b) Write about key distribution.

[5+5]

OR

11. Explain the following
a) Nested transactions
b) Release consistency and Munin.

[5+5]

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